

# Complementary and alternative medicine practices used by families in asthmatic children

Eurasian Clinical and Analytical Medicine Original Research

## Complementary and alternative medicine

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### Abstract

**Aim:** In this study, we aimed to examine the use of complementary and alternative medicine (CAM) in children with asthma.

**Material and Methods:** This is a descriptive type of study. The study included all patients aged 2-17 years who visited to the Pediatric Allergy and Immunology Department of a tertiary hospital in İstanbul between May and July 2022 with asthma diagnosis. Age, duration of asthma diagnosis, use of complementary and alternative therapies of the patients were asked.

**Results:** Pediatric patients (n=115) with asthma were evaluated. All families used at least one CAM. Of the children, 72.2% (n=83) used multiple CAM product. While the percentage of those who used one of the CAM products was 27.8% (n=32), 6.1% (n=7) of the families used five different CAMs. The most frequently used CAM was honey with a percentage of 67.0% (n=77). Honey was followed by carob molasses (n=29, 25.2%), ginger (n=29, 25.2%), black seed oil (n=20, 17.4%) and lemon (n=20, 17.4%). Only three (2.6%) parents stated that they had heard about CAM from their doctor. The duration of asthma diagnosis was statistically significantly longer in children using multiple products (p=0.017).

**Discussion:** In our study, the percentage of multiple CAM products usage among children with asthma was high. However, very few parents have used CAM on doctor's advice. Further studies on the reasons for CAM use, CAM side effects and benefits should be planned.

### Keywords

Asthma, Children, Complementary Medicine, Alternative Medicine

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## Introduction

Asthma is a major public health problem worldwide [1]. It is a respiratory disease characterized by chronic inflammation of the airways [2]. Chronic airway inflammation and hyperresponsiveness lead to episodes of wheezing, shortness of breath, chest tightness and/or coughing, especially in the middle of the night or early morning. Symptoms and airflow limitation often resolve with treatment or spontaneously [3].

Asthma is one of the most common chronic diseases in children [4]. It constitutes a significant burden of disease for the patient and the community [5]. It can cause a decrease in quality of life, mental disorders such as anxiety and depression, and school loss in children [6-8]. Despite all this, asthma can be controlled with appropriate treatment [3].

Pharmacotherapies used in the treatment of asthma are generally effective and well-tolerated in the management of the disease and control of attacks [9]. Despite this, some asthma patients use complementary and alternative therapies [10]. Complementary treatments aim to support medical treatments. Patients mostly prefer to use them to improve well-being, to reduce disease symptoms and use of medications [11, 12]. Patients who did not want to use complementary and alternative medicine reported focusing on the treatment recommended by the doctor as the most common reason for not using it [13].

A study reported that 76.4% of the children with asthma had ever used complementary and alternative medicine (CAM) [11]. The use of CAM methods in asthma patients has been reported to be high [14, 15]. It is essential that healthcare professionals have sufficient knowledge about such a widely used method [10, 16]. In this study, we aimed to examine the CAM use in children with asthma admitted to our clinic and to evaluate variables such as age and duration of asthma diagnosis that may be associated with CAM use.

## Material and Methods

This is a prospectively designed, descriptive type of study. The study included all patients aged 2-17 years who presented to the Pediatric Allergy and Immunology Department of a tertiary hospital in Istanbul between May 2022 and July 2022 with asthma diagnosis and used CAM. Asthma was diagnosed by clinical and laboratory methods in patients with recurrent wheezing and cough with improvement between attacks. Parents were asked questions about age, duration of asthma diagnosis, hometown, use of complementary and alternative therapies of the patients. Children who did not use CAM were excluded.

## Statistical Analysis

SPSS [Statistical Package for Social Sciences] for Windows 25.0 program was used for statistical analysis and data recording. Median, minimum and maximum values, number (n) and percentages (%) were used for descriptive data. The conformity of continuous variables to normal distribution was examined with histograms and probability plots and with the Kolmogorov-Smirnov/Shapiro-Wilk tests. The Mann-Whitney U test was used to compare continuous variables that did not conform to normal distribution.  $P < 0.05$  was accepted as the level of statistical significance.

## Ethics

Ethical approval was obtained from the Ethics Committee of the relevant hospital on 10-02-2022 with decision number 41. Informed consent was obtained.

## Results

In our study, 115 pediatric patients with asthma were evaluated. Of the children, 52.2% (n=60) were male, 47.8% (n=55) were female. The median age of the children was 6.0 years [2.0-17.0]. The median duration of

asthma diagnosis was 4.0 years [1.0-16.0]. The most common hometown of the children was Blacksea (n=40, 34.8%) (Table 1).

In our study, parents were asked about their children's use of CAM via a questionnaire. All families used at least one CAM. The percentage of those who used one of the CAM products was 27.8% (n=32), 25.2% (n=29) used two different types of CAM, and 27.8% (n=32) used three types. While 13.0% (n=15) of the families used four types of CAM, 6.1% (n=7) of the families used five different CAMs (Figure 1).

The most frequently used CAM was honey with a percentage of 67.0% (n=77). Honey was followed by carob molasses (n=29, 25.2%), ginger (n=29, 25.2%), black seed oil (n=20, 17.4%) and lemon (n=20, 17.4%). The percentages of CAM use are shown in Table 2.

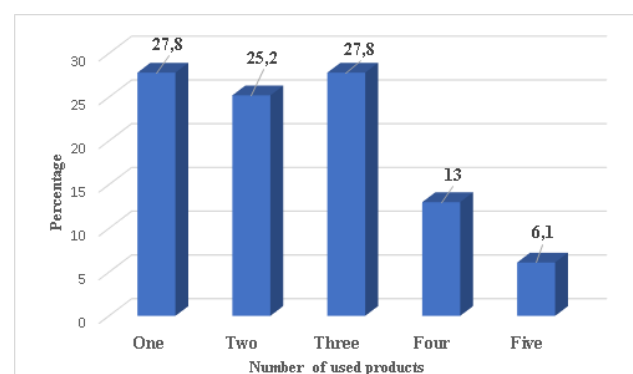
Parents were asked where they obtained information about CAM products and their use. Parents mostly heard about these products from social media (n=59, 51.3%) or from their ancestors (n=46, 40.0%). While 6.1% (n=7) of the parents heard about CAM from their social environment, three (2.6%) parents stated that they heard about CAM from their doctor.

The study evaluated children's age and duration of asthma diagnosis, which may be associated with single and multiple CAM product use. Of the children, 72.2% (n=83) used multiple CAM products. The median age of children using multiple products was 6.0 years [2.0-17.0], while the median age of children using a single product was 5.5 years [2.0-14.0] ( $p=0.157$ ). The median duration of asthma diagnosis in children who used multiple products was 4.0 years [1.0-16.0], while the duration of asthma diagnosis in single product users was 3.0 years [1.0-9.0]. The duration of asthma diagnosis was statistically significantly longer in children using multiple products ( $p=0.017$ ) (Table 3).

**Table 1.** Characteristics of the patients.

	Median (min-max)
Age (years)	6.0 (2.0-17.0)
Duration of asthma diagnosis (years)	4.0 (1.0-16.0)
Hometown	n (%)
Marmara	8 (7.0)
Blacksea	40 (34.8)
Aegean	0 (0)
Central Anatolia	25 (21.7)
Eastern Anatolia	25 (21.7)
Southeast Anatolia	5 (4.3)
Mediterranean	9 (7.8)
Other	3 (2.6)

**Figure 1.** Numbers of different complementary and alternative medicine usage.



**Table 2.** Use of different types of complementary and alternative medicine products.

Products	n	%
Honey	77	67.0
Chestnut honey	6	5.2
Grape molasses	13	11.3
Goat horn molasses	29	25.2
Andiz molasses	19	16.5
Mulberry molasses	9	7.8
Black seed oil	20	17.4
Olive oil	6	5.2
Aquilaria agallocha oil	11	9.6
Mint	3	2.6
Lemon	20	17.4
Quail eggs	10	8.7
Orange peel	2	1.7
Ginger	29	25.2
Propolis	11	9.6

**Table 3.** Age, duration of asthma diagnosis and complementary and alternative medicine usage.

	Complementary and alternative medicine usage						P- value
	Single product (n=32)			Multiple products (n=83)			
	Median	Min.	Max.	Median	Min.	Max.	
Age (years)	5.5	2.0	14.0	6.0	2.0	17.0	0.157
Duration of asthma diagnosis (years)	3.0	1.0	9.0	4.0	1.0	16.0	0.017

## Discussion

Today, the prevalence of asthma in children is increasing [17, 18]. Since asthma is a significant disease burden for both children and parents, it is important to treat and clinically control the disease. For this reason, parents may turn to complementary and alternative therapies instead of or in addition to pharmacologic treatments [10].

In our study, parents were questioned about CAM use in their children. All families used at least one CAM. The percentage of those who used only one of the CAM products was 27.8% (n=32), whereas 72.2% (n=83) of the children used multiple CAM products. In a large sample study in the literature, 57.0% of asthma patients used CAM [19]. In different studies conducted in our country, this percentage was reported as 77.0% and 66.0%, respectively [9, 10]. According to the literature, CAM use in asthma patients is high and according to our study, almost 3 out of 4 asthmatic children use multiple CAMs. It is necessary to know what products are in such widespread use in order to manage the disease and to be careful for possible side effects.

The most frequently used CAM was honey with a percentage of 67.0%. Honey was followed by carob molasses, ginger, black seed oil and lemon. Similar to our study, honey was the most common CAM product used in children with asthma in one of the studies in Turkey [10]. Molasses types and black seed oil were the other products used respectively. Similarly, honey and molasses were the most commonly used CAM products in different studies conducted in our country [9, 20]. The results of our study are consistent with the literature on CAM use in asthma. Although some CAM therapies have been used in asthma for

many years, studies on the safety, concurrent use with pharmacologic treatments, benefits and harms of these products are needed.

In our study, nearly half of the parents heard about CAM from social media. A big proportion of them (40.0%) received information about CAM from their ancestors. While 6.1% of the parents heard about CAM from their social environment, 2.6% of the parents stated that they heard about CAM from their doctor. In a study the parents of asthmatic children learned about CAM mostly through friends and relatives [21]. Similar to our results, only 6% learned about it from physicians. Since the study was conducted in 2003, the concept of social media was not developed at that time. According to the results of our study, in the context of the modern development of social media networks, the sources of information for parents about CAM are largely shaped by social media. Studies can be planned to control the informative posts on social media and to prevent misinformation if exists.

In our study, the age of the child and the duration of asthma diagnosis, which we thought might be associated with multiple CAM use, were evaluated. The duration of asthma diagnosis was statistically significantly longer in children using multiple products. This result can be interpreted as a search by families for different therapeutic methods in the later stages of the disease. Further qualitative and quantitative studies are needed to investigate other reasons that lead families to use CAM. In literature, there are studies reporting the high use of CAM methods in childhood diseases in low-income families and countries [16,22]. Economic status, education level, severity of the disease have also been reported to have an impact on CAM use [23]. In our study, data on income and educational status could not be presented. Future studies need to evaluate parameters such as income status and disease severity.

## Limitations and Strengths

Although the fact that our study was conducted in a single center creates a limitation in terms of the generalizability of the results, since it was conducted with patients admitted to a tertiary care hospital, participants could be recruited from different regions of the country. Another limitation of our study is that other factors such as socioeconomic level, education level and occupation that may affect parents' CAM use were not questioned. Nevertheless, since few studies have been conducted in this field, our study has made an important contribution to the literature in this field with single and multiple CAM use and the factors affecting it.

## Conclusions

In our study, the percentage of multiple CAM products usage among children with asthma was high. Parents mostly heard about these products from social media and from their ancestors. However, very few parents have used it on doctor's advice. The most frequently used CAM was honey. Honey was followed by carob molasses, ginger, black seed oil and lemon. Further studies asking the reasons for CAM use, CAM side effects and benefits should be planned.

## Scientific Responsibility Statement

The authors declare that they are responsible for the article's scientific content including study design, data collection, analysis and interpretation, writing, some of the main line, or all of the preparation and scientific review of the contents and approval of the final version of the article.

## Animal and human rights statement

All procedures performed in this study were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards.

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## Conflict of interest

None of the authors received any type of financial support that could be considered potential conflict of interest regarding the manuscript or its submission.

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